



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
---------------	-------------	----------------------	---------------------

08/120,628 09/13/93 FARNWORTH

W 9162.7

EXAMINER KARLSEN, E

E6M1/0407

STANLEY N. PROTIGAL
MICRON SEMICONDUCTOR, INC.
2805 EAST COLUMBIA RD.
BOISE, ID 83706

ART UNIT	PAPER NUMBER
----------	--------------

2687

5

DATE MAILED: 04/07/94

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

9-13-93

9-13-93

10-29-93

☒ This application has been examined. ☒ Responsive to communication filed on 10-29-93 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 44-71 are pending in the application.
Of the above, claims 71 are withdrawn from consideration.
2. ☒ Claims 1-43 have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 44-70 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable. ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed on _____, has been ☐ approved. ☐ disapproved (see explanation).
12. ☐ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received
☐ been filed in parent application, serial no. _____, filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

Art Unit 2607

1. Restriction to one of the following inventions is required under 35 U.S.C. § 121:

I. Claims 44-70, drawn to an attachment member, classified in Class 324, subclass 158F.

II. Claim 71, drawn to a method of establishing ohmic contact, classified in Class 324, subclass 158F.

2. The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case the apparatus can be used in a process that does not use Z-axis material or in a process that does use Z-axis material.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter and because the search required for Group I is not required for Group II restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Mr. Angus Fox on March 28, 1994 a provisional election was made without traverse to

Art Unit 2607

prosecute the invention of Group I, claims 44-70. Affirmation of this election must be made by applicant in responding to this Office action. Claim 71 has been withdrawn from further consideration by the Examiner, 37 C.F.R. § 1.142(b), as being drawn to a non-elected invention.

6. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as the specification, as originally filed, does not provide support for the invention as is now claimed.

It is not clear where in the originally filed specification there is basis for the limitations of claims 45-49, 52-56 and 59-69.

7. Claims 45-49, 52-56 and 59-69 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

8. Claims 45-70 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what all the claimed elements are and it is not clear how they are interconnected and

Art Unit 2607

interrelated to produce the desired results. In particular limitation c of claim 44, limitation d of claim 51 and limitation d of claim 58 are not clear. Do the limitations in question~~s~~ read on any conical probe element wherein one portion of the probe element is larger than some other portion of the probe? Presumably a conically shaped probe would require very little force for penetration by the tip and "significantly" more force to provide penetration of the probe to a point halfway up the probe tip. It is also unclear what is meant by the above referred to limitations in claims 50, 57 and 70. Claims 50, 57 and 70 relate to a pad conductive in the Z-axis. The referred to limitations relate to contacts that make contact with die contacts. In the apparatus of claims 50, 57 and 70 the probe contacts do not make contact with die contacts. The probe contacts make contact with a pad conductive in the Z-axis.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

10. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
11. Claims 44-70 are, insofar as understood, rejected under 35 U.S.C. § 102(b) as being fully anticipated by any one of Lehman-Lamer, Kawade et al., Leedy, Yanagi et al., Littlebury et al. or Liu et al.

Art Unit 2607

12. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

13. Claims 50, 57 and 70 are further rejected under 35 U.S.C. § 103 as being unpatentable over any one of Lehman-Lamer, Kawade et al., Leedy, Yanagi et al., Littlebury et al. or Liu et al. in a first set in view of any one of Arai, Koromegawa et al., Chang et al., Yoshida et al. or Svendsen et al. in a second set. The first set shows semiconductor probe elements wherein the probe elements are of variable cross-section. The second set shows electrically conductive Z-axis material to be sandwiched between probes and a device under test. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have adapted the electrically conductive Z-axis material of the second set to the apparatus of the first set because one skilled in the art would realize that such would enable more

Serial No. 08/120,628

-6-

Art Unit 2607

accurate testing to be done as suggested by the references of the second set.

14. The citation of material which is incomplete on pages 17 and 23 of the specification should be completed.

E. Karlsen:lsd
March 30, 1994
703-305-4768



ERNEST F. KARLSEN
PRIMARY EXAMINER
GROUP 267